CLAIMS

We claim:

1. A method of delivering blanks to a module, the method comprising:

dispensing blanks onto a first conveyor traveling at a first velocity;

accelerating the first conveyor to substantially match a second velocity of a second conveyor;

transferring at least a portion of one of said blanks from the first conveyor to the second conveyor; and

reducing the velocity of the first conveyor to the first velocity.

2. The method of claim 1, wherein the blanks are dispensed onto the first conveyor in an end-to-end relationship.

3. The method of claim 1, including repeating said accelerating, transferring and reducing step for the blank adjacent to said one blank.

4. The method of claim 1, further comprising:

detecting the position of said one blank and triggering the acceleration of the first conveyor when said one blank is at a preselected position.

5. The method of claim 4, wherein said detecting step includes detecting the leading edge of said one blank.

6. The method of claim 4, including maintaining said first conveyor at said second velocity for a predetermined time period and reducing the velocity of said first conveyor after the predetermined time period.

7. The method of claim 6 wherein said detecting step includes detecting by a photodetector.

8. The method of claim 1, wherein transferring the blank includes passing the blank into a nip point of the second conveyor, wherein the second conveyor maintains control of the blank after the first conveyor is reduced in velocity.

9. A method of providing blanks into a modular folder/gluer having a plurality of modules interconnected by conveyance mechanisms, the method comprising:

dispensing blanks from a feeder into a first conveyor, the blanks being dispensed into the first conveyor adjacent to one another in the direction of the travel of said first conveyor;

advancing the blanks by said first conveyor toward a second conveyor at a first velocity, said second conveyor traveling at a second velocity greater than said first velocity;

detecting the position of a given blank in said first conveyor as said given blank approaches said second conveyor;

accelerating the first conveyor from the first velocity to substantially match the second velocity in response to detecting the position of said given blank;

transferring said given blank from the first conveyor to the second conveyor after said accelerating step; and

decelerating the first conveyor to the first velocity so that said given blank and a subsequent blank immediately adjacent to said given blank travel at different velocities.

10. The method of claim 9, wherein decelerating the first conveyor occurs when a predetermined period of time has elapsed after said accelerating step.

11. The method of claim 10, including calculating the predetermined period of time with a controller.

12. The method of claim 11, wherein the calculating step is based on a length of said given blank, the first velocity and the second velocity.

13. The method of claim 11, further comprising:

entering a blank length into the controller;

entering the first velocity into the controller; and

entering the second velocity into the controller, wherein the controller utilizes the blank length, the first velocity and the second velocity to calculate the predetermined period of time.

14. The method of claim 13, wherein the controller automatically reduces the first velocity if the controller determines that the first conveyor is incapable of accelerating and decelerating within one blank length.

15. The method of claim 9 wherein said second conveyor includes upper and lower belt members and a nip and the transferring step occurs by conveying said given blank into said nip.

16. An apparatus for folding and gluing blanks into boxes comprising:

a feeder hopper capable of receiving a plurality of substantially identical blanks and sequentially dispensing the blanks;

a feeder conveyor operably coupled with the feeder hopper and capable of receiving the blanks dispensed from the feeder hopper in an end-to-end adjacent relationship, the feeder conveyor operable at a first velocity and second velocity;

a servo motor operably coupled with the feeder conveyor to drive the feeder conveyor;

a carrier conveyor positioned proximate the feeder conveyor and having a nip point, the nip point located so that blanks may be fed from the feeder conveyor into the nip point and received by the carrier conveyor;

a blank detector positioned to detect the position of a given blank as said given blank is conveyed by the feeder conveyor and approaches the carrier conveyor; and

a controller operably coupled to the servo motor and the blank detector to increase the feeder conveyor from the first velocity to the second velocity in response to the blank detector detecting the position of said given blank and to decrease the

feeder conveyor from the second velocity to the first velocity after a predetermined period of time has elapsed.

17. The apparatus of claim 16, further comprising a user interface for receiving data indicative of the first velocity, the second velocity and a blank length.

18. The apparatus of claim 16 wherein said blank detector is a photodetector.

19. The apparatus of claim 18 wherein said photodetector is positioned to detect a leading edge of said given blank.

20. The apparatus of claim 16 wherein said carrier conveyor comprises a pair of belts each having a receiving end and a discharge end and said nip point is at the receiving ends of, and between, said pair of belts.